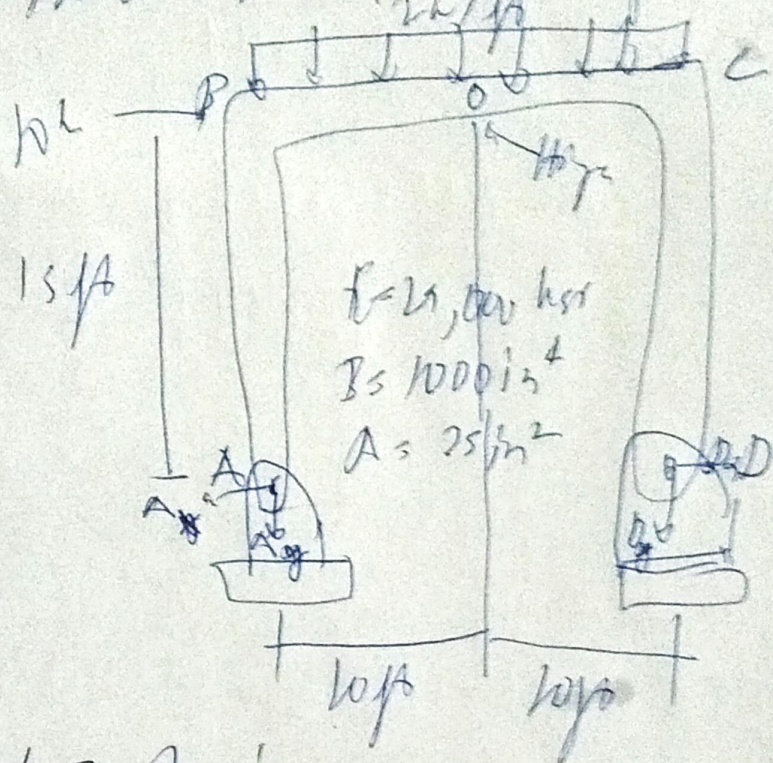


David Kenneth Villanovs
N838773

C & S M M R L D work B from analysis



Whole system!

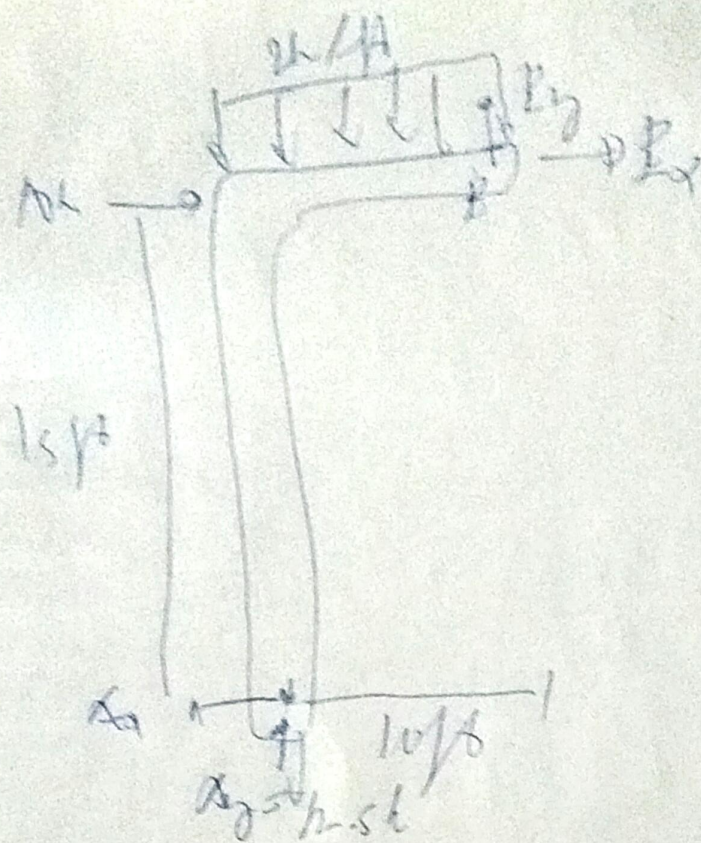
$$\sum M @ A = 0 \quad (+)$$

$$(100)(15 \text{ ft}) + (24 \text{ ft})(20 \text{ ft})(16 \text{ ft}) + D_y(20 \text{ ft}) = 0 \Rightarrow D_y = -27.5 \text{ k}(\searrow)$$

$$\int \Lambda_0 = 0: H$$

$$-A_y(20\text{ ft}) - (24\text{ ft})(20\text{ ft})(10\text{ ft}) + (10\text{ k})(15\text{ ft}) = 0 \Rightarrow A_y = -12.5\text{ k}$$

$$\{P_2 = D: -A_{21} + D_2 + D_1 = 0\} \quad A_{21} = D_2 + D_1$$



$$\sum M_E = 0! \quad \left(\begin{array}{c} \circ \\ + \end{array} \right)$$

$$-(2k\Omega)(10\mu F)(5mA) + (2.5k\Omega)(10\mu F) + A_x(15\mu F) = 0 \Rightarrow A_x = -1.67k$$

$$A_x = 10k + 0x \Rightarrow 0x = -11.67k$$

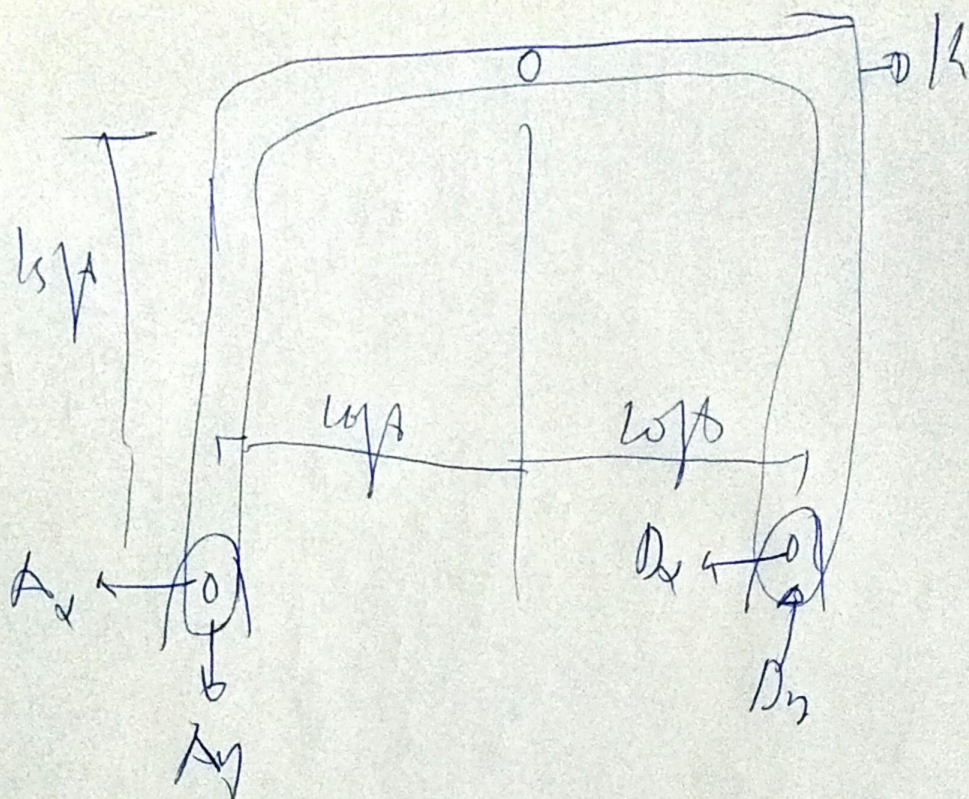
100 system!

$$A_x = 1.67k\Omega$$

$$A_y = 12.5k\Omega$$

$$D_x = 11.67k\Omega$$

$$D_y = 27.5k\Omega$$



$$\sum \mathcal{M}_D = 0: \uparrow +$$

$$-A_y(20\text{ ft}) + (1\text{ k})(15\text{ ft}) = 0$$

$$\Rightarrow A_y = 0.75\text{ k}$$

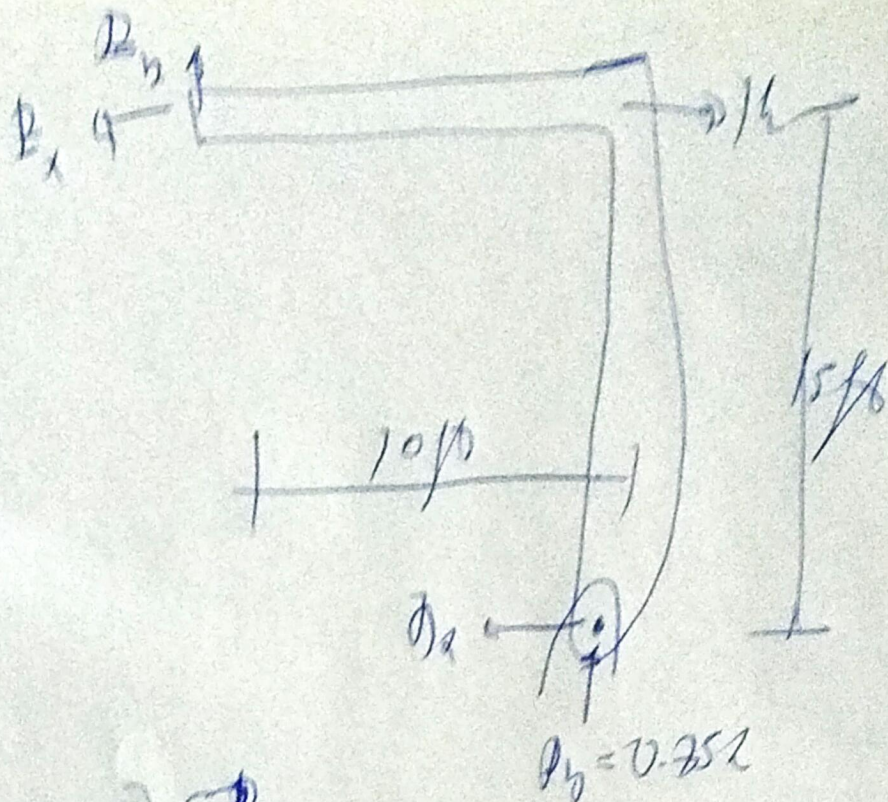
$$\sum \mathcal{M}_A = 0: \uparrow +$$

$$-B_y(20\text{ ft}) + (1\text{ k})(15\text{ ft}) = 0$$

$$\Rightarrow B_y = 0.75\text{ k}$$

$$\sum \mathcal{F}_x = 0: -A_x + 1\text{ k} - B_x = 0$$

$$A_x = 1\text{ k} - B_x$$



$$\sum M_{B \rightarrow D} = 0$$

$$- (0.75 \text{ k}) (10 \text{ ft}) + D_x (15 \text{ ft}) = 0$$

$$D_x = 0.5 \text{ k}$$

$$X_A + D_x = 0 \Rightarrow A_x = 0.5 \text{ k}$$

Virtual system:

$$X_A = 0.5 \text{ k} \rightarrow$$

$$A_y = 0.75 \text{ k} \downarrow$$

$$D_x = 0.5 \text{ k} \leftarrow$$

$$D_y = 0.75 \text{ k} \uparrow$$